Castilleja linariifolia

Castilleja

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Meet David Tank, Rocky Mountain Herbarium Director

(Editor's note: We are delighted to bring you this interview and to welcome David Tank, a *Castilleja* expert and new director of the Rocky Mountain Herbarium.)

BH: What excites you about RM?

DT: First, it is really amazing to be part of a community of botanists and public that understands and celebrates the significance of the Rocky Mountain Herbarium (RM). As the 14th largest US herbarium and among the largest single data providers among herbaria, this collection is an important resource for studying and exploring plant diversity in Wyoming and beyond. I'm excited to have the reputation of the RM floristics program to build on while working to train the next generation of botanists. There are really very few opportunities for students to get formal field botany training, and I look forward to rebooting floristics research at the RM. And, given the extensive floristics program that has really quite thoroughly documented the flora of Wyoming and much of the Rocky Mountain region, I think we are poised to start to synthesize these data into new resources, like a revised Flora of Wyoming, as well as to ask new questions about changes to the flora based on changes in land use or the effects of climate change on plant community composition and species distributions.

Left: David Tank, by Ben Legler

Above: *Castilleja angustifolia* var. *angustifolia*, by David Tank. Understanding taxonomic boundaries in the *Castilleja angustifolia* - *Castilleja chromosa* species complex is one of current paintbrush projects in the Tank lab.
To view this photo in color, please go to the newsletter online (www.wynps.org)

BH: What interests you about the paintbrush (*Castilleja*) genus?

DT: As a plant systematist, I work at the intersection of evolutionary biology, genetics, and taxonomy. The paintbrush genus (*Castilleja*) and its relatives have so much to teach us about all three of these areas. By using phylogenetic approaches to understand how the mostly perennial genus *Castilleja* is related to annual genera like owl's clover (*Orthocarpus*) and bird's beak (*Cordylanthus*), we were able to both revise the circumscription of these genera to reflect our new understanding of evolutionary relationships in the group, and to investigate the evolution of life history strategies and their influence on species diversity.

(Continued on p. 4)

WYNPS News

Mark your Calendars for 2022 Annual Meeting: June 3-5 (Friday-Sunday) are dates of the 2022 Annual Meeting in Thermopolis. An exciting slate of hikes and a presentation will be announced in the next newsletter, along with arrangements for free camping *and* a roof overhead at the hub of events.

Ready, Set…Renew! This issue contains your renewal form to renew by mail. You can also renew electronically at wynps.org. The calendar year is the membership year.

The renewal form also has an election ballot to vote for the 2022 WYNPS Board. *Check out the sterling slate*!

Scholarship Application deadline: All applications for scholarships and small grants are due 15 Feb. The call for proposals is inserted in this issue and posted online.

Treasurer's Report: Balance as of Dec. 1: Scholarship = $1574; General = 9031.77; Total = $10,605.77.

WYNPS Board – 2021
President: Emma Freeland, Lander (emma.eileen.freeland@gmail.com)
Vice-President: Maggie Eshleman (maggieeshleman@gmail.com)
Sec.-Treasurer: Dorothy Tuthill, Laramie (dtuthill@uwyo.edu)
Board-at-large: Katie Haynes, Laramie (katharine.haynes@usda.gov)(2020-'21)
Paige Wolken, Cheyenne (paigewolken@yahoo.com) (2021-'22)

Other Contacts:
Editor: Bonnie Heidel (bheidel@uwyo.edu)
New Webmaster: Maggie Eshleman (maggieeshleman@gmail.com)
Sublette Chapter: Jill Randall, President (possum1b@yahoo.com)
Teton Plants: Amy Taylor, Treasurer; (tetonplants@gmail.com). Check the chapter homepage (https://tetonplants.org/) for upcoming events.

New Members: Please welcome the following new members to WYNPS: Nancy Baumeister, Corvallis OR; Rita Donham, Cora; Ben Legler, Laramie; Kathy Lichtendahl, Clark; Karla Warder, Sheridan.

Message from the President

Holiday Greetings!

I hope this message finds you settling in for some much needed winter's rest. Do all botanists struggle with winter as much as I do? In this season, where the sun stays low on the horizon, my busy field season dies down, and the ground freezes solid in the garden, I try to be grateful for the deep rest and extra time to connect with family and friends.

I find myself yearning for the wave of yellow that sweeps the Lander Slope as the arrow leaf balsamroot opens, the optimism of a bitterroot in flower on a ridgetop, the mystery of a *Pellaea* in a limestone crevice, the abundance in the seed set of prairie smoke, the improbability of tobacco popping up in last year's fire scar, and the satisfaction of a rare plant survey with a positive result. I feel both the awe and the lonesomeness in an afternoon sunset as viewed from the floor of the Wind River Basin. I comfort myself with winter's tedium of mounting herbarium specimens, endless garden planning, and searching the woods for white fir trees. …But the season that feeds my soul is next season, and it will come soon enough.

Happy holidays to you and yours, Society members! All my best,

Emma Freeland

Next issue: Please send articles and announcements by 15 February to the address below (ATTN editor):

Wyoming Native Plant Society
P.O. Box 2449
Laramie, WY 82073

Contributors to this Issue: Robert Dorn, Emma Freeland, Bonnie Heidel, C. Lynn Kinter, Ben Legler, Dorothy Tuthill, David Tank.

Glimpes into the Past - Next Year

(Editor's note: The following article features research on Roundtop Mountain, one of our 2022 annual meeting destinations, provided by Lynn Kinter, and excerpted from: Kinter, L., A. Hild, T. Whitson, S. Alger & K. Rose. 1998. Relicts of the past: A vanishing range resource. Reflections 8(1): 18-21; https://arc.lib.montana.edu/range-science/item/652 . Look for more articles about 2022 annual meeting destinations and plans in the next newsletter – and this original 1998 article in full..)

By C. Lynn Kinter

…On cresting the rise, the eager research team from University of Wyoming's College of Agriculture found a grass stand that had been little used by humans or grazing animals through the centuries. The butte top near Thermopollis harbored a plant community dominated by bluebunch wheatgrass, needle and thread, and other native grasses, with low levels of sagebrush and weeds. "It's like opening a museum door and getting a glimpse of the past," said ecologist Ann Hild.

Relicts of pristine vegetation are a limited and rapidly vanishing resource across the United States. Each relict site is a potential witness of the past, providing valuable information on the functioning of our rangelands. Protected sites in Wyoming are becoming increasingly important for ecological study in the face of escalating pressure on rangelands from many resource users.

While human artifacts are commonly preserved for science and education, our precious grassland relicts are rarely protected. As weed specialist Tom Whitson explained, "Often these areas are destroyed because people aren't aware they're there. These grass stands are pictures of our successional history. Once they're gone, they can't be replaced." Over time, our opportunities to study these ecological benchmarks are jeopardized…

Relict sites are thought to be typical of pristine conditions and, therefore, are important to resource managers for both scientific and educational purposes. These sites are typically found on butte tops, in fenced exclosures, or in rugged terrain far from water where little development or grazing use occurs.

From the 1880s to 1934, heavy grazing on public lands went unchecked, and range science was only beginning. Although livestock use has been lighter since that period, rangeland plant communities and soils may have been changed irreversibly. In the 1950s, some protected plant communities across the west were documented as "rangeland reference areas." Vegetation inventories from these sites were compiled to provide a basis for comparison of land-use impacts in similar areas and to formulate the range assessment site guides now used by the Natural Resources Conservation Service (NRCS).

> "*Few people in history have had the insight to preserve special features. It would be a wish come true if the Wyoming sites were designated for scientists and naturalists to study and protected so future generations can see what our ancestors saw*," said Tom Whitson, Extension Weed Specialist in Kinter et al. 1998

In addition to their value in range conditions assessment, relicts can be valuable resources for retaining and restoring the ecological integrity of our ecosystems. They provide gene pool repositories of native indigenous plant species and undisturbed habitat reference areas for native fauna. They may also help in setting revegetation standards for reclamation activities. As Hild pointed out, "Wyoming strip mines now replant one sagebrush per square meter, but in some pristine conditions, sagebrush wasn't that dense."…

…The vegetation on each relict site was dominated by bluebunch wheatgrass and threadleaf sedge with some big sagebrush. On all three relicts, the primary change noted since Fisser's 1964 (baseline) study was the invasion of downy brome, or cheatgrass. This introduced annual from the Mediterranean competes with desirable perennial grasses for moisture and develops seed heads in early summer. After maturity, it has sharp seeds, little forage value, and extremely flammable stems.

With continued urbanization of the West, some of the few remaining relict areas are being used in ways that permanently compromise their ecological integrity. Once these treasures are damaged, their scientific baseline values disappear. Whitson summed up the feelings of the UW inventory team when he said, "Few people in history have had the insight to preserve special features. It would be a wish come true if the Wyoming sites were designated for scientists and naturalists to study and protected so future generations can see what our ancestors saw."

Meet David Tank - *Continued from p. 1*

Castilleja is a taxonomically challenging genus, with over 200 species ranging from Siberia and Alaska through Andean South America. So it provides so many opportunities to study evolutionary processes like hybridization and polyploidy, and the tempo and mode of diversification in the heterogeneous landscapes of the mountains of the Americas. On top of this, the many closely related pairs of species and species complexes, and a major center of diversity in western North America, make it possible for students to take on focused and integrative molecular and morphological studies investigating the patterns and processes of speciation and species delimitation backed by extensive fieldwork and collections.

BH: What are your priorities for RM this coming year?
DT: For those that have visited the Herbarium in the past, you know about our space needs – especially for filing specimens. We've been working hard this fall to get a grasp on the specimen backlog and have begun to shift specimens in preparation for integrating as many of the unfiled projects as we can given our current infrastructure…but with an eye on the future! With the completion of the new Science Initiative building on campus in early 2022, the RM is poised to expand our footprint to the second floor of the Aven Nelson Memorial Building, and we are working hard to secure the necessary internal and external funds for this major undertaking. As the world's premier collection of Rocky Mountain plants and one of the most rapidly growing herbaria in the world, space to secure our existing collections and to allow us to continue to grow strategically is our number one priority.

At the same time, we are working to revamp and expand our specimen database and the search portal that provides access to these data. This work has been one of the main things that our new Digital Curator, Ben Legler, has been working on and will set the stage for future development of a suite of digital resources for exploring and studying the flora of Wyoming and the Rocky Mountains. While much of this ongoing development is "behind the scenes," upgrading the aging infrastructure that is currently in place will allow us to much more efficiently expand this dataset with the goal of having the entire collection of over 1 million specimens digitized and accessible online. *Stay tuned*!

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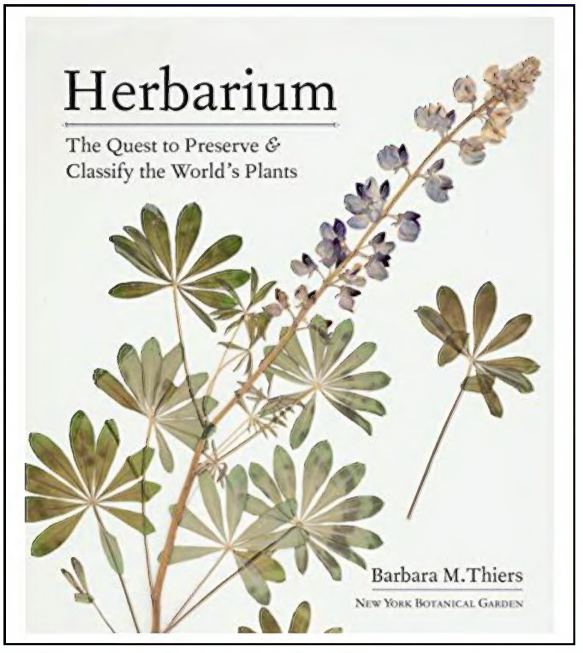
Are you interested in getting updates about the Herbarium? Sign up for RM news at:
https://www.rockymountainherbarium.org/index.php/who-we-are/friends-rocky-mountain-herbarium .

Botanists' Bookshelf:

Herbarium. The Quest to Preserve and Classify the World's Plants.
By Barbara M. Thiers. 2020.
Timber Press, Portland, OR. 279 pp.
ISBN 978-1-60469-930-2. $40
Review by Arnold Tiehm of the Nevada Native Plant Society. [Edited lightly by Matt Lavin. As printed in the Sumer 2021 issue of *Kelseya*, Montana Native Plant Society newsletter.]



From the dust jacket on Barbara Thiers' marvelous book, *Herbarium*, is the following quote:

"Since the 1500s, scientists have documented the plants and fungi that grew around them, organizing the specimens into collections. Known as herbaria, these archives helped give rise to botany as its own scientific endeavor". Herbaria are indeed an archive, a historical account of plants collected over time. Comparison of historical collections and modern collections allows for positive identification. Historical collections show what plants occurred in an area before alteration by humans. Reports of plants for any area are based on the documentation of a herbarium specimen."

Webster defined herbarium as "A collection of dried plant specimens usually mounted and systematically arranged for reference". When people ask me, I always refer to a herbarium as "A library of plant specimens".

Wyoming Native Plant Society – Renewal and Ballot

Return to: Wyoming Native Plant Society – P.O. Box 2449 – Laramie, WY 82073 by 21 January!

Name _____ Date_____
Address _____
Email _____

Please check all appropriate boxes:

[ ] New member
[ ] Renewing member

[ ] Check here if this an address change

[ ] Annual membership with email notification of newsletters: $10
[ ] Annual membership with mailed newsletters: $12
[ ] Annual membership with scholarship support and email notification of newsletters: $20
[ ] Annual membership with scholarship support

In addition to the statewide organization, we have two chapters. Membership in chapters is optional; chapter members must also be members of the statewide organization.

[ ] Teton Plants Chapter annual membership: $5
[ ] Sublette Chapter annual membership: $5

[ ] Additional donation of $_____ -

Total enclosed: _____

Please write checks to:

Wyoming Native Plant Society

2022 WYNPS BALLOT – Please mail for arrival by **January 21** or email your vote to: wynps@wynps.org

Please vote for one person for each Officer position, and for vacant the At-Large position:

President ____ Kristy Smith (Pinedale)
Secretary/Treas. ____ Dorothy Tuthill (Laramie)
Vice President ____ Maggie Eshleman (Lander) At-Board att Large (1rst yearr of 2-yearr term)
____ Greg Pappas (Laramie)
[The second Board member At-Large, on her 2nd year of a 2-yr term, is Paige Wolken, (Cheyenne)]
Write-in candidate: _____

Thank you to Emma Freeland and Katie Haynes for getting us through 2021!

Candidate Biographies

Kristy Smith has worked as biological technician in California, Nevada, and Wyoming for state, public, and federal agencies, experiencing the joys of field data collection in truly stunning and remote reaches of the west. She currently works at the Sublette County Conservation District. She holds a Bachelor's Degree in Environmental Science from Humboldt State.

Biographies, continued

Maggie Eshleman is restoration scientist at The Nature Conservancy, where she works to improve sagebrush and native forb establishment on restoration sites. Since moving to Wyoming, Maggie has enjoyed exploring the Wind River Range, learning about the flora of Wyoming, and learning from everyone in WYNPS. She also became our Webmaster in 2021!

Greg Pappas is from Cheyenne and graduated from the University of Wyoming (B.S. in Geography and Agroecology; M.S. in Botany). He currently works as a botanist for the Medicine Bow-Routt National Forests, and is dedicated to helping expand our understanding of plants and their relationships through science, collaboration, and exploration.

Dorothy Tuthill is associate director and educational coordinator at the Biodiversity Institute (BI). She holds a PhD in Botany from the University of Wyoming. On behalf of BI, she is on the Rocky Mountain Herbarium Management Team and Natural Science Collections Partnership.

Wyoming Native Plant Society

MARKOW SCHOLARSHIP/SMALL GRANT

Applications are due February 15, 2021. Awards will be made in April, 2022.

Electronic copies of this application are also posted on the WYNPS homepage at: www.wynps.org

The Wyoming Native Plant Society promotes appreciation, understanding and conservation of native plants and plant communities through its annual scholarship/small grants program. For scholarships, thesis research may address any aspect of botany including floristics, taxonomy, ecology, genetics, plant geography, range science, paleontology, pollination biology, physiology, and mycology. For small grants, projects such as botany curriculum development, public native plant gardens, and other forms of outreach will be considered. **This competition is open to all grad students who conduct research in Wyoming, residents of Wyoming or members of WYNPS.**

Proposals must pertain to native plants/vegetation of Wyoming. Preference will be given to proposals expected to generate research data or promote public understanding. Up to $1,000 may be covered for a scholarship proposal, and up to $500 for a small grant proposal. *Awards defray direct project costs, excluding labor or conferences*. Eligible expenses include:

1. Direct costs of travel, meals, and lodging for research or education projects.
2. Supply and service expenses used for the sole purpose of the project (e.g., consumable supplies such as laboratory chemicals, soil and nursery stock, and services such as phone and computer time).

The deadline for proposals is February 15. Awards will be announced in April. The proposal should be no longer than three pages and include the following:

- Name, mailing address, telephone number (land &/or cell as appropriate) and email address of the applicant.
- Name, mailing address, contact person's name & phone number for any organization that will be directly involved with the applicant when executing the proposal.
- Short abstract of the study or project (2-5 sentences).
- Description of the study or project: objectives, methods, description of final product, and short description of past similar work (if applicable). Garden proposals should include plant lists, an educational component, and explicitly address long-term maintenance plans.
- Description of how the study or project will benefit native plants or plant conservation in Wyoming.
- Overall budget showing amount requested from WYNPS ($1,000 or less), the intended purpose of the funding, and other funding sources.
- Timeline for completion of the major components of the study or project.
- Brief statement of applicant's qualifications or biography.
- Name, address, email address or phone number of two people as references.

Successful scholarship or grant recipients will be required to submit a final report (due no later than February 15, 2023) documenting the study or project accomplishments to WYNPS, written for a broad audience and suitable for publication in our *Castilleja* newsletter. **Please send completed applications to:** Wyoming Native Plant Society, P.O. Box 2449, Laramie, WY 82073; or wynps@wynps.org .

In *Herbarium*, Barbara Thiers, director of the Herbarium at the New York Botanical Garden, takes us on a trip through the history and functioning of herbaria around the world. The book is divided into five major sections: *The Origin of Herbaria; Herbaria and the Age of Botanical Exploration; Development of Herbaria in the United States; Development of Herbaria Around the World; and The Future of Herbaria.*

From *The Origin of Herbaria*, we learn that the first herbaria were developed by herbalists and apothecaries. The modern herbarium dates to the early 1500s and starts with Renaissance man Luca Ghini. He taught medicine at the University of Bologna, in Italy, and subsequently added a course in plants. In order to allow the year-round study of plants he pressed plants and glued them to the pages of a blank book. It is a short stretch to imagine how books and portfolios of plant specimens were converted to the modern herbarium method of plant specimens on loose sheets of paper filed in a systematic order. Unfortunately, Ghini's herbarium no longer exists…

In *Development of Herbaria in the United States* we learn that the early collections from America were sent to museums and sponsors in Europe. The first scientific organization in the United States was the American Philosophical Society founded in Philadelphia in 1743. As more people poured into America, more Universities and Colleges were established, more science was taught, and more natural history museums were created. We learn about the Twisted Tale of Lewis and Clark's Botanical Specimens. We learn about the establishment and development of major herbaria at Harvard, The New York Botanical Garden, and the Missouri Botanical Garden. We learn about botany in California with the rise of herbaria at the California Academy of Sciences and the University of California, Berkley.

In *Development of Herbaria around the World* we learn about the development of herbaria in Australia, Brazil, The People's Republic of China, and South Africa. There are fascinating tales and stories about herbaria in all of these areas which only leaves me wanting more. In the preface the author laments *…I could not focus equal attention on herbaria worldwide – a realization that saddened me greatly.* After all, there is a story behind every herbarium. How, when and why did it start? Who were the people that supported and contributed to its existence? Who were the collectors who braved sometimes uncomfortable and dangerous conditions to make interesting collections in remote locations to be preserved in perpetuity?

In *The Future of Herbaria*, we learn that herbaria worldwide currently number about 3,300, are housed in 178 countries, and contain about 390 million specimens. This section delves into studies of DNA extracted from herbarium specimens. We learn that the oldest specimen at the New York Botanical Garden from which DNA has been successfully extracted was collected in 1835. We also learn how extractions from herbarium specimens have allowed studies of air borne pollutants such as heavy metals and how herbarium studies have documented phenological changes. There are also sections on *Preserving Herbaria, Threats to Herbaria*, and *How You Can Help.*

Included in this section is an image I am grateful to see. That is one of the cold storage room at The New York Botanical Garden. It is here that the Garden stores specimens waiting their turn to be mounted on archival paper and expedition specimens that are being processed. The room is kept cold to prevent insect infestations damaging the collections. I vividly remember the first time I was shown this room and how much I was in awe with it. When I was working at the Garden the cold storage room was always included on guest tours. The image show a row of shelves containing expedition specimens that have been organized by collector and plant family. In the background are shelves containing specimens to be mounted. The room is taller than the image shows and certainly has many more rows that simply could not be shown in one image. I showed the image to a student who remarked it was sheer chaos. Sheer chaos - No! Organized chaos – maybe. The different colored drop tags delineate and define what is contained in the bundles and once the system is learned order is born from seemingly chaos.

Herbarium is impeccably researched and written with an envious clarity of prose. It is a fascinating enquiry into this unique field of plant biology, exploring how herbaria emerged and have changed over time, who promoted and contributed to them, and why they remain such an important source of data for their new role: Understanding how the world's flora is changing. Barbara Thiers also explains how recent innovations that allow us to see things at both the molecular level and on a global scale can be applied to herbaria specimens, helping us address some of the most critical problems facing today's world.

At its heart, *Herbarium* – is a compelling reminder of one of humanity's better impulses: to save things – not just for ourselves, but for posterity, whoever she is. In short *Herbarium* is a marvelous book about the ages, for the ages.

Growing Native Plants

Part 42. Forbs for Dry to Moist Sites

By Robert Dorn

Apocynum androsaemifolium, Spreading Dogbane, is a somewhat bushy perennial to mostly 2 feet tall and with rhizomes that form colonies. The leaves are opposite, mostly ovate, to 2.5 inches long and 1.5 inches wide, and turn yellow early in the fall. The flowers are about 0.3 inch long and wide in loose clusters at tips of stems and branches, white to pale pink on the outside, and striped inside with dark pink or red-violet. They appear in July and August. The plants occur naturally on dry to moist, rocky, open slopes or open woods in the plains, basins, valleys, and mountains. They prefer full sun or part shade and dry to moist, well drained or rocky soils. All parts of the plant are poisonous. It can be grown from seed sown outdoors in the fall or from rhizome cuttings. It is in the nursery trade.

Apocynum androsaemifolium, Pennington Co., SD

Cryptantha virgata, Slender Miners-candle, is a biennial or short-lived perennial with slender stems to 2 feet tall. The leaves are narrow. The flowers are white, to 0.5 inch long, and crowded along the upper 1/2 to 2/3 of the stem. They appear in June and July. The plants occur naturally in moist, open places of the mountains and foothills. They prefer full sun and moist, well drained soils. It can be grown from seed surface sown outdoors in the fall.

Cryptantha virgata, Carbon County

Penstemon glaber, Sawsepal Penstemon, is a perennial to 2 feet tall. The leaves are opposite. The flowers are blue to blue-purple, about 1.25 inches long, and appear from June to September. The plants occur naturally in dry, open places from the plains to the mountains. They prefer full sun and dry, well drained soils. It can be grown from seed sown outdoors in the fall and barely covered with soil. Cold stratify the seed for at least 90 days for spring planting.

Penstemon glaber, Pennington Co., SD

Tetraneuris acaulis, Stemless Tetraneuris, is a perennial with often several stems to 12 inches tall but usually much smaller. The leaves are all basal and narrow and to 4 inches long. The flower heads are solitary at the tip of each stem, to 1.75 inches across with yellow ray and disk flowers. They appear mostly in May and June but sometimes as early as April or as late as July. The plants occur naturally in dry, open, rocky places in the plains, basins, and mountains. They prefer full sun and dry to moist, well drained soils. It can be grown from seed covered lightly with soil to allow some light exposure. Seed is commercially available.

Tetraneuris acaulis, Moffat Co., CO

Viola praemorsa, Upland Yellow Violet, is a perennial to 7 inches tall and wide with several flower stems per plant. The leaves are mostly near the base and to 7 inches long. The flowers are yellow marked with brownish-purple lines, to 0.6 inch long, and solitary at the tips of mostly leafless stems. They appear from April to August depending on elevation. The plants occur naturally in moist, open areas or open woods in the mountains. They prefer full sun or part shade and moist soils but are adaptable to clayey or well drained soils. It can be grown from seed sown outdoors in the fall and covered lightly with soil.

Viola praemorsa, Grand Co., CO

To see the above plants in color, go to the newsletter on the Society website.

Save the date:

Black Hills Botany and Ecology Workshop Announcement

March 18 is date of the 2022 Black Hills Botany and Ecology Workshop (BHABEW), held each year as a gathering of botanists, ecologists, land managers and related natural resource specialists conducting work in the Black Hills of South Dakota and Wyoming. As of this writing, it is planned as an in-person event, held in the Outdoor Campus West in Rapid City, South Dakota. It was a virtual event this past year.

Please send any topic ideas for symposia involving a set of invited speakers, or for a World Café session, by December 15, 2021 to: Dr. Amy Symstad, Research Ecologist, U.S. Geological Survey – asymstad@usgs.org . A call for contributed talks will also be going out this month.

If you are interested in receiving the announcement, or for any further questions, please contact Amy Symstad.

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Draft Recovery Plan for Desert Yellowhead

Review and comments are sought on the Draft Recovery Plan for Desert Yellowhead (*Yermo xanthocephalus*) from Federal, State, Tribal, and local agencies and the public. The plan was posted by U.S. Fish and Wildlife Service on 8 Nov: https://www.federalregister.gov/documents/current .

The Draft Plan establishes criteria for delisting that include:

- Long-term, renewable protections from mineral resources extraction for at least 10 years after delisting
- Population numbers
- Successful seed production at any level in both populations
- Seedbanking of seeds from both populations

It also introduces readers to new terms regarding the recovery planning and implementation process (RPI) and the recovery implementation strategy (RIS).

The comment period on the draft recovery plan will close on Friday January 7, 2022.

WYOMING NATIVE PLANT SOCIETY MEMBERSHIP FORM

Date _____

Name _____

Address _____

Email _____

Please check all appropriate boxes:

[ ] New member
[ ] Renewing member
[ ] Check here if this an address change
[ ] Annual membership with email notification of newsletters: $10
[ ] Annual membership with mailed newsletters: $12
[ ] Annual membership with scholarship support and email notification of newsletters: $20
[ ] Annual membership with scholarship support and mailed newsletters: $22
[ ] Life membership with email notification of newsletters: $300
[ ] Life membership with mailed newsletters: $300

In addition to the statewide organization, we have two chapters. Membership in chapters is optional; chapter members must also be members of the statewide organization.

[ ] Teton Plants Chapter annual membership: $5
[ ] Sublette Chapter annual membership: $5
[ ] Additional donation of $_____

Total enclosed: _____

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Laramie, WY 82073